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Remarks

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and following remarks. Claims 6-38 are pending in the application. No claims have been allowed. Claims 6, 21, and 36 are independent. Claim 6-38 have been rejected. These rejections are respectfully traversed. Claims 6, 8-10, 12-16, 21, 23-25, 27-32, and 36 have been amended. Applicants respectfully submit that the amendments to independent claims 6, 21, and 36 are not narrowing and are not made for reasons relating to patentability.

Priority

The specification of the present application has been amended to correct a typographical error in the priority claim. A petition to correct priority is submitted herewith.

The Office Action considers the priority date for claims 6, 21, and 36 as being March 23, 2004. Applicants respectfully submit that claims 6, 21, and 36 incorporate subject matter having a priority date of July 23, 1996. For example, the paragraph beginning at page 21, line 31, of the present application states:

In alternative embodiments of the present invention, it may be advantageous to include the power manager and intelligent power module functions internally as intrinsic components of an uninterruptible power supply (UPS). In applications where it is too late to incorporate such functionally, external plug-in assemblies are preferred such that off-the-shelf UPS systems can be used. (emphasis added)

Thus, some embodiments include power manager and intelligent power module functions internally as intrinsic components of a UPS by using a power supply housing and mounting a power manager agent application, power outlets, and intelligent power modules inside the power supply housing. One of skill in the art would interpret a UPS as being a box, meaning that the UPS comes with a housing (e.g., a power supply housing). Any other reading (e.g., that the

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paragraph meaningless. A signed declaration supporting this interpretation is submitted herewith. Also, for example, FIG. 1 of the present application shows that the UPS 26 is a box and, therefore, includes a power supply housing.

Applicants respectfully submit that, as explained in the declaration, alternative terms for housing include box, frame, and enclosure. Applicants would be satisfied with the use of any such terminology if the Examiner would prefer it over the term housing.

With respect to use of the term terminal, the present application states at page 14, lines 12-16:

The appliance has its incoming AC line power applied to a hot (H) terminal 230, a neutral (N) terminal 232 and a ground (G) terminal 234, which are respectively connected to a hot (H) terminal 236, a neutral (N) terminal 238 and a ground (G) terminal 240. (emphasis added)

Thus, terminals, as used in the present application, include power outlets. One skilled in the art would interpret a terminal as being, for example, a power outlet. The declaration submitted herewith supports this interpretation.

Patentability of Claims 6, 7, 9-14, 21, 22, 24-29, and 36-38 over Reynolds in view of "Official Notice" under 35 U.S.C. § 103

Claim 6

Independent claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Reynolds et al., Pub. No. US2004/004705A1, filed May 6, 2003 (hereinafter "Reynolds") in view of "Official Notice." The subject matter of independent claim 6 has a priority date of July 23, 1996, and the earliest possible priority date for Reynolds is May 6, 2002. As such, Reynolds is not considered prior art with respect to the present application.

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Furthermore, Reynolds does not teach or suggest the network power manager apparatus as claimed in independent claim 6. For example, Reynolds does not teach or suggest any type of intelligent power module or terminal, much less an intelligent power module being adapted to provide power from a power source to a corresponding terminal, as required by claim 6. The present application, at page 11, lines 1-6, describes intelligent power modules as being able to switch the operating power on/off to a corresponding network appliance. Reynolds describes in FIG. 24 and the corresponding discussion at page 7, para. [0131], as noted in the Office Action, various logic modules according to specific embodiments. Such logic modules, however, are understood to consist of drivers, processors, sensors, and the like. None of the modules, alone or in combination, are understood to control operating power to terminals, much less being able to switch operating power on/off.

Additionally, the present application provides several advantages that result from the use of a power supply housing in which a power manager agent application, power outlets, and intelligent power modules can be mounted. For example, having only one box to deal with (e.g., a power supply housing) provides for quicker installation (e.g., in a rack environment) and greater ease of use. Installation is significantly easier in situations where there are not multiple pieces of equipment needing to be attached. Having all such functionality in one box can also allow for less physical space needed for installation.

As discussed above, and supported by the declaration submitted herewith, one of skill in the art would interpret a UPS in the context of this application to be a single box or housing, as depicted by the UPS 26 in FIG. 1 of the present application. For example, some embodiments of the present application involve the mounting of intelligent power modules (e.g., IPMs 30, 32, 34, and 36 in FIG. 1) inside a power supply housing (e.g., UPS 26 in FIG. 1).

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Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of independent claim 6 be withdrawn.

Dependent claims 7 and 9-14 depend directly or indirectly from their parent claim 6, and are allowable for at least the reasons recited above in support of their parent claim 6. They are also independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 7 and 9-14 be withdrawn.

Claim 7

Reynolds does not teach or suggest "a serial communications connection supported by a microprocessor, said serial communications connection connecting each of the intelligent power modules to the power manager agent application," as required by dependent claim 7.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 7 be withdrawn.

Claim 9

Reynolds does not teach or suggest "said microprocessor communicates the power-on status of the IPM-corresponding terminal to the network power manager application through said power manager agent application as a variable in a managed information base data construct communicated over the network communications connection in accordance with a predefined simple network management protocol," as required by dependent claim 9. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 9 be withdrawn.

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Claim 10

Reynolds does not teach or suggest "each of the intelligent power modules further comprises a microprocessor connected by a load sensor that independently senses the load status of the corresponding terminal," as required by dependent claim 10. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 10 be withdrawn.

Claim 11

Reynolds does not teach or suggest "said microprocessor is adapted to communicate the load status to the network power manager application through the power manager agent application as a variable in a managed information base (MIB) data construct communicated over the network communications connection in accordance with a predefined simple network management protocol (SNMP)," as required by dependent claim 11. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 11 be withdrawn.

Claim 12

Reynolds does not teach or suggest "each of the intelligent power modules further comprises a microprocessor in communication with a relay that independently controls the power applied to the corresponding terminal," as required by dependent claim 12. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 12 be withdrawn.

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Claim 13

Reynolds does not teach or suggest "said microprocessor controls the power applied to the corresponding terminal in response to a variable in a managed information base (MIB) data construct communicated from the network power manager application to the power manager agent application over the network communications connection in accordance with a predefined simple network management protocol (SNMP)," as required by dependent claim 13.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 13 be withdrawn.

Claim 14

Reynolds does not teach or suggest "each intelligent power module further comprises: a microprocessor in communication with: a power state sensor that independently senses the power-on status of the corresponding terminal; a load sensor that independently senses the load status of the corresponding terminal; and a relay that independently controls the power applied to the corresponding terminal," as required by dependent claim 14. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 14 be withdrawn.

Claim 21

Independent claim 21 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Reynolds et al., Pub. No. US2004/004705A1, filed May 6, 2003 (hereinafter "Reynolds") in view of "Official Notice." The subject matter of independent claim 21 has a priority date of July 23, 1996, and the earliest possible priority date for Reynolds is May 6, 2002. As such, Reynolds is not considered prior art with respect to the present application.

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Furthermore, Reynolds does not teach or suggest the network power manager apparatus as claimed in independent claim 21. For example, Reynolds does not teach or suggest any type of intelligent power module or terminal, much less an intelligent power module being adapted to provide power from a power source to a corresponding terminal, as required by claim 21. The present application, at page 11, lines 1-6, describes intelligent power modules as being able to switch the operating power on/off to a corresponding network appliance. Reynolds describes in FIG. 24 and the corresponding discussion at page 7, para. [0131], as noted in the Office Action, various logic modules according to specific embodiments. Such logic modules, however, are understood to consist of drivers, processors, sensors, and the like. None of the modules, alone or in combination, are understood to control operating power to terminals, much less being able to switch operating power on/off.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of independent claim 21 be withdrawn.

Dependent claims 22 and 24-29 depend directly or indirectly from their parent claim 21, and are allowable for at least the reasons recited above in support of their parent claim 21. They are also independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 22 and 24-29 be withdrawn.

Claim 22

Reynolds does not teach or suggest "a serial communications connection supported by a microprocessor, said serial communications connection being adapted to connect each of the intelligent power modules to the network power manager application," as required by dependent

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claim 22. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 22 be withdrawn.

Claim 24

Reynolds does not teach or suggest "said microprocessor communicates the power-on status of the IPM-corresponding terminal to the network power manager application through said power manager agent application as a variable in a managed information base data construct communicated over the network communications connection in accordance with a predefined simple network management protocol," as required by dependent claim 24. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 24 be withdrawn.

Claim 25

Reynolds does not teach or suggest "each of the intelligent power modules further comprises a microprocessor connected by a load sensor that independently senses the load status of the corresponding terminal," as required by dependent claim 25. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 25 be withdrawn.

Claim 26

Reynolds does not teach or suggest "said microprocessor communicates the load status to the network power manager application through the power manager agent application as a variable in a managed information base (MIB) data construct communicated over the network communications connection in accordance with a predefined simple network management

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protocol (SNMP)," as required by dependent claim 26. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 26 be withdrawn.

Claim 27

Reynolds does not teach or suggest "each of the intelligent power modules further comprises a microprocessor in communication with a relay that independently controls the power applied to the corresponding terminal," as required by dependent claim 27. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 27 be withdrawn.

Claim 28

Reynolds does not teach or suggest "said microprocessor controls the power applied to the corresponding terminal in response to a variable in a managed information base (MIB) data construct communicated from the network power manager application to the power manager agent application over the network communications connection in accordance with a predefined simple network management protocol (SNMP)," as required by dependent claim 28.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 28 be withdrawn.

Claim 29

Reynolds does not teach or suggest "each intelligent power module further comprises: a microprocessor in communication with: a power on sensor that independently senses the power-on status of the corresponding terminal; a load sensor that independently senses the load status of

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the corresponding terminal; and a relay that independently controls the power applied to the corresponding terminal," as required by dependent claim 29. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 29 be withdrawn.

Claim 36

Independent claim 36 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Reynolds et al., Pub. No. US2004/004705A1, filed May 6, 2003 (hereinafter "Reynolds") in view of "Official Notice." The subject matter of independent claim 36 has a priority date of July 23, 1996, and the earliest possible priority date for Reynolds is May 6, 2002. As such, Reynolds is not considered prior art with respect to the present application. Furthermore, Reynolds does not teach or suggest the network power manager apparatus as claimed in independent claim 36.

Furthermore, Reynolds does not teach or suggest the network power manager apparatus as claimed in independent claim 36. For example, Reynolds does not teach or suggest any type of intelligent power module or terminal, much less an intelligent power module being adapted to provide power from a power source to a corresponding terminal, as required by claim 36. The present application, at page 11, lines 1-6, describes intelligent power modules as being able to switch the operating power on/off to a corresponding network appliance. Reynolds describes in FIG. 24 and the corresponding discussion at page 7, para. [0131], as noted in the Office Action, various logic modules according to specific embodiments. Such logic modules, however, are understood to consist of drivers, processors, sensors, and the like. None of the modules, alone or in combination, are understood to control operating power to terminals, much less being able to switch operating power on/off.

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Additionally, the present application provides several advantages that result from the use of a power supply housing, in which a power manager agent application, power outlets, and intelligent power modules can be mounted. For example, having only one box to deal with (e.g., a power supply housing) provides for quicker installation (e.g., in a rack environment) and greater ease and use. Installation is significantly easier in situations where there are not multiple pieces of equipment needing to be attached. Having all such functionality in one box also equates to less physical space needed for installation. As discussed above, and supported by the declaration submitted herewith, one of skill in the art would interpret a UPS to be a single box, as depicted by the UPS 26 in FIG. 1 of the present application. For example, some embodiments of the present application involve the mounting of intelligent power modules (e.g., IPMs 30, 32, 34, and 36 in FIG. 1) inside a power supply housing (e.g., UPS 26 in FIG. 1).

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of independent claim 36 be withdrawn.

Dependent claims 37 and 38 depend directly or indirectly from their parent claim 36, and are allowable for at least the reasons recited above in support of their parent claim 36. They are also independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 37 and 38 be withdrawn.

Claim 37

Reynolds does not teach or suggest "the voltage state determination processor comprises a microprocessor portion controllably communicating with said power relay," as required by dependent claim 37. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 37 be withdrawn.

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Claim 38

Reynolds does not teach or suggest "the network communications connection is a serial connection providing serial communication between the network power manager application and the power manager agent application," as required by dependent claim 38. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 38 be withdrawn.

Patentability of Claims 8, 23, 15-20, and 30-35 over Reynolds in view of "Official Notice" and further in view of Ewing under 35 U.S.C. § 103

Dependent claims 8 and 15-20 depend directly or indirectly from their parent claim 6, and are allowable for at least the reasons recited above in support of their parent claim 6. They are also independently patentable. Furthermore, Ewing et al., U.S. Patent No. 5,506,573 (hereinafter "Ewing") does not cure the deficiencies of Reynolds. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 8 and 15-20 be withdrawn.

Dependent claims 23 and 30-35 depend directly or indirectly from their parent claim 21, and are allowable for at least the reasons recited above in support of their parent claim 21. They are also independently patentable. Furthermore, Ewing et al., U.S. Patent No. 5,506,573 (hereinafter "Ewing") does not cure the deficiencies of Reynolds. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 23 and 30-35 be withdrawn.

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Claim 8

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises a microprocessor connected by an opto-isolator whereby the intelligent power module may independently sense the power state of said corresponding terminal," as required by dependent claim 8. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 8 be withdrawn.

Claim 23

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises a microprocessor connected by an opto-isolator whereby the intelligent power module may independently sense the power-on status of said corresponding terminal," as required by dependent claim 23. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 23 be withdrawn.

Claim 15

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises: a power supply and clock generator, connected to a load-sensor, a power state sensor, and a relay and that applies a series of alternating current (AC) voltage pulses synchronized to a source of AC power to the corresponding terminal with an on/off switch, said load sensor being adapted to sense the presence of a series of AC current pulses that result if said on/off switch is closed; a microprocessor that analyzes any AC current pulses detected by said load sensor to determine if they resulted from application of the AC voltage pulses; and an input/output connection connected to said microprocessor that outputs an

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on/off status indication for said switch," as required by dependent claim 15. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 15 be withdrawn.

Claim 16

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises: power output terminals with a power switch; a synchronized pulse generator connected to said terminals that applies an alternating pulsed voltage synchronized to an incoming alternating current power source to the corresponding terminal; a load sensor connected in series with said terminals and said power supply/clock generator; and a microprocessor connected to both said synchronized pulse generator and the load sensor, said microprocessor being adapted to determine if a current sensed by said load sensor resulted from both said switch being closed and application of the alternating pulsed voltage from said synchronized pulse generator," as required by dependent claim 16. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 16 be withdrawn.

Claim 17

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said power state sensor comprises a voltage state determination processor in voltage determination communication with a power relay in power controlling communication with said corresponding terminal," as required by dependent claim 17. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 17 be withdrawn.

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Claim 18

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said synchronized pulse generator further comprises a clock generator with an output that coincides with each zero-crossing of the incoming alternating current power," as required by dependent claim 18. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 18 be withdrawn.

Claim 19

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said load sensor further comprises an opto-isolator and a sense resistor," as required by dependent claim 19.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 19 be withdrawn.

Claim 20

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said microprocessor further comprises a data input connected to said opto-isolator and a data output connected to control the synchronized pulse generator," as required by dependent claim 20. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 20 be withdrawn.

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Claim 30

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises: a power supply and clock generator connected to a load-sensor, a power on sensor, and a relay, said power supply and clock generator applying a series of alternating current (AC) voltage pulses synchronized to a source of AC power to the corresponding terminal with an on/off switch, said load sensor being adapted to sense the presence of a series of AC current pulses that result if said on/off switch is closed; a microprocessor that analyzes any AC current pulses detected by said load sensor to determine if they resulted from application of the AC voltage pulses; and an input/output connection connected to said microprocessor that outputs an on/off status indication for said switch," as required by dependent claim 30. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 30 be withdrawn.

Claim 31

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "each intelligent power module further comprises: power output terminals with a power switch; a synchronized pulse generator connected to said terminals that applies an alternating pulsed voltage synchronized to an incoming alternating current power source to the corresponding terminal; a load sensor connected in series with said terminals and said power supply/clock generator; and a microprocessor connected to both said synchronized pulse generator and the load sensor, said microprocessor being adapted to determine if a current sensed by said load sensor resulted form both said switch being closed and application of the alternating pulsed voltage from said

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synchronized pulse generator," as required by dependent claim 31. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 31 be withdrawn.

Claim 32

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said power state sensor comprises a voltage state determination processor in voltage determination communication with a power relay in power controlling communication with said corresponding power terminal," as required by dependent claim 32. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 32 be withdrawn.

Claim 33

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said synchronized pulse generator further comprises a clock generator with an output that coincides with each zero-crossing of the incoming alternating current power," as required by dependent claim 33. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 33 be withdrawn.

Claim 34

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said load sensor further comprises an opto-isolator and a sense resistor," as required by dependent claim 34.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 34 be withdrawn.

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Claim 35

Neither Reynolds nor Ewing, alone or in combination, teach or suggest "said microprocessor further comprises a data input connected to said opto-isolator and a data output connected to control the synchronized pulse generator," as required by dependent claim 35.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 35 be withdrawn.

Examiner Interview Summary

Applicants would like to thank Examiner Patel for participating in a telephonic Examiner Interview on June 8, 2005. After Applicants presented the arguments, Examiner Patel requested that the arguments be put in writing. Applicants respectfully submit that the arguments have been incorporated into this Amendment.

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Conclusion

The claims in their present form should be allowed. Such action is respectfully requested.

Respectfully submitted,

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